

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 05-290662

(43)Date of publication of application : 05.11.1993

(51)Int.Cl.

H01H 3/16

(21)Application number : 04-082017

(71)Applicant : SHARP CORP

(22)Date of filing : 03.04.1992

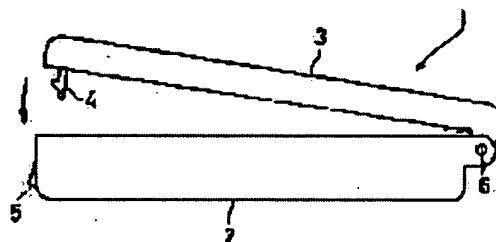
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(54) LID OPENING/CLOSING STRUCTURE OF ELECTRONIC UNIT

(57)Abstract:

PURPOSE: To provide a lid opening/closing structure of an electronic apparatus provided with a means for turning a power source off for eliminating unnecessary battery consumption by utilizing the opening/closing of a lid.

CONSTITUTION: Failure in turning off of a power source switch or unnecessary battery consumption when the switch of the power source is turned ON by strong outer force and so on, can be prevented by cutting the power source circuit of an electronic unit 1 provided with a lid 3 when the lid 3 is closed, regardless of ON/OFF condition of the power source switch of the unit. An engaging protrusion 4 to be engaged with a main body 2 is provided on the lid 3, and the engaging protrusion is engaged with the engagement part of the main body 2 when the lid 3 is closed, and the lid 3 is maintained at a closed position, while a switch contact inserted in series in the power source circuit by the engaging protrusion when the lid 3 is closed, is opened, and when the lid is closed, the contact is turned OFF, while it is turned ON when the lid 3 is opened, and the power source circuit is switched regardless of ON/OFF of the power source switch 12 of the electronic unit 1.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

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[Date of registration]

[Number of appeal against examiner's decision of rejection]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates the body section to the closing motion structure of the lid of the electronic equipment constituted by having in a wrap lid.

[0002]

[Description of the Prior Art] In the electronic equipment which uses a cell as a power source, in order to prevent consumption of the useless cell by failure of an electric power switch to cut etc., if a non-busy condition carries out predetermined time continuation, the auto-power-off function which intercepts a power circuit and is changed into the condition of power-source OFF will be prepared. In the case of a computer [electronic equipment] related equipment [, such as an electronic notebook and a word processor of a handheld computer mold,], if time amount progress is carried out, auto-power-off will be realized by incorporating the software used as power-source OFF with the fixed condition of the waiting for a key input.

[0003]

[Problem(s) to be Solved by the Invention] However, when preparing an auto-power-off function, it is necessary to set a setup of the time amount judged to be a non-busy condition for making it power-source OFF as the comparatively long time amount for 5 minutes or 10 minutes. If it does not take into consideration interruption by a user's think time or other business etc., it is because it is turned off [power-source] frequently and the facilities of use will be spoiled. Therefore, cell consumption of time amount until it becomes this auto-power-off cannot be disregarded, either, and cell consumption will be influenced greatly at a repeated case. Moreover, influencing a battery life, although it may be turned on [power-source] when the strong external force from which a lid acquires a deflection when it is inserted in a pocket, even if the lid was prepared, when it was electronic equipment of the pocket mold in which the electric power switch of a push button type was prepared is received, and power-source OFF comes by the function of auto-power-off [time / this / after / predetermined time of] cannot be denied. This invention was made in view of the conventional technical problem like the above, and aims at offering power-source OFF means **** which loses useless cell consumption in electronic equipment equipped with the lid using closing motion of a lid, and the lid closing motion structure of electronic equipment where effective extension of a battery life can be aimed at.

[0004]

[Means for Solving the Problem] The means which this invention adopts in order to attain the above-mentioned purpose is constituted by closing said lid in the lid closing motion structure of the electronic equipment which comes to have [a wrap lid] the front face of the body which constitutes the case of electronic equipment, and this body, enabling free closing motion as lid closing motion structure of the electronic equipment characterized by intercepting the power circuit of said electronic equipment.

[0005]

[Function] According to this invention, in electronic equipment equipped with the lid, when a lid is closed, useless cell consumption when an electric power switch forgets to cut or an electric power

switch becomes ON according to strong external force etc. can be prevented by intercepting the power circuit of this electronic equipment irrespective of ON/OFF state of the electric power switch of a device.

[0006]

[Example] With reference to an accompanying drawing, it explains hereafter per [which materialized this invention] example, and an understanding of this invention is presented. In addition, the following examples are examples which materialized this invention, and do not limit the technical range of this invention. The side elevation showing an example of the electronic equipment which drawing 1 requires for the example of this invention here, the important section sectional view of the electronic equipment which shows drawing 2 to drawing 1, and drawing 3 are the circuit diagrams of a power circuit part. In drawing 1, the electronic equipment 1 concerned possesses a body 2 and the lid 3 which was connected with this body 2 with the hinge 6, and was formed free [closing motion], and is constituted, and the engagement projection 4 which engages with a body 2 is formed in this lid 3. When a lid 3 is closed, this engagement projection 4 is for engaging with the engagement section of a body and holding a lid 3 to a closed position, and by pushing the engagement discharge knob 5 prepared in the engagement section of a body 2, engagement is canceled and it can open a lid 3. The engagement section of the above-mentioned lid 3 and a body 2 is shown in drawing 2 as an enlarged section. This drawing shows the condition of having closed the lid 3, and when a lid 3 is closed, said engagement projection 4 engages with the engagement discharge knob 5 prepared in the body 2, and is locked by the closed position. Since the engagement discharge knob 5 is energized by the spring member 13 while it is supported to revolve with an abbreviation center position with the rotation shaft 10, engagement to the engagement projection 4 is held. Moreover, on the substrate 11 attached in the body 2, the movable contact piece 7 and the fixed contact piece 8 which were formed of the elastic member are prepared so that it may illustrate, when a lid 3 is closed, said movable contact piece 7 is pressed at the tip of the engagement projection 4, this is depressed, and a contacting point with the fixed contact piece 8 is opened. As it is indicated in drawing 3 as this movable contact piece 7 and the fixed contact piece 8, the switch contact 14 inserted in the serial in the power circuit of electronic equipment 1 is constituted, and as shown in drawing 2, when a lid 3 is closed and contact OFF and a lid 3 are opened, it becomes contact ON, and a power circuit is opened and closed on the basis of series connection with the electric power switch 12 of electronic equipment 1. As it is indicated in drawing 2 as the movable contact piece 7 and the fixed contact piece 8 like the above-mentioned, the end is being fixed to the substrate 11 within a body 2, and wiring formed on a substrate 11 connects with the power circuit. If the engagement discharge knob 5 prepared in the body 2 is pushed from the condition which closed the lid 3 shown in drawing 2, the engagement discharge knob 5 supported to revolve with the rotation shaft 10 will resist the energization force of the spring member 13, and will be rotated, and engagement to the engagement projection 4 will be canceled. Since the engagement projection 4 is pushed up by the elastic repulsive force of the movable contact piece 7 at this time, a lid 3 will be in the condition of having opened a few, and opening by hand will become easy. Moreover, since the movable contact piece 7 returns to a contact location with the fixed contact piece 8 with the elasticity, a switch contact 14 is closed and it will be in the condition that it can be made power-source ON by the electric power switch 12. By constituting as mentioned above, also when having forgotten to turn off the power, a power circuit is automatically intercepted by closing a lid 3. Moreover, also when an electric power switch becomes ON with external pressure etc., in the condition that the lid 3 has closed, it will not be in the condition of power-source ON, but useless consumption of a cell will be prevented. Useless power consumption decreases extremely by using together the above-mentioned equipment and the above-mentioned auto-power-off equipment.

[0007]

[Effect of the Invention] As the above explanation, in electronic equipment equipped with the lid, when a lid is closed, according to this invention, the useless cell consumption when an electric power switch forgetting to cut or becoming sudden power-source ON according to strong external force etc. can be prevented by intercepting the power circuit of this electronic equipment irrespective of ON/OFF state of

the electric power switch of a device.

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CLAIMS

[Claim(s)]

[Claim 1] Lid closing motion structure of the electronic equipment characterized by intercepting the power circuit of said electronic equipment by closing said lid in the lid closing motion structure of the electronic equipment which comes to have [a wrap lid] the front face of the body which constitutes the case of electronic equipment, and this body, enabling free closing motion.

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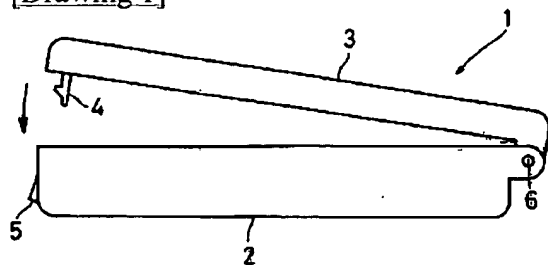
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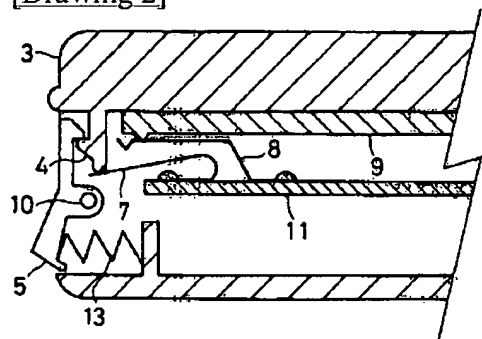
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DRAWINGS

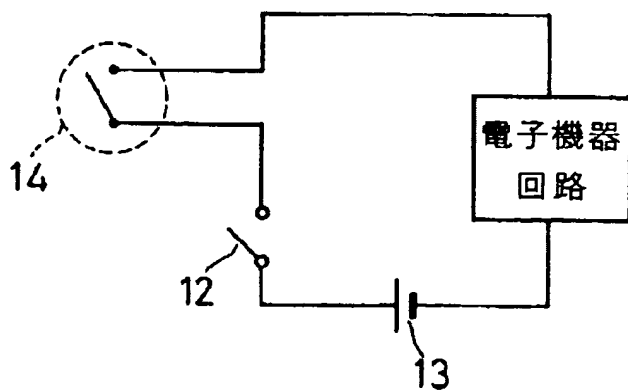
[Drawing 1]



[Drawing 2]



[Drawing 3]



[Translation done.]